

REMARKS

This document is filed in reply to the Office Action dated April 9, 2008 (“Office Action”).

Applicants have amended the specification to correct typographical errors.

Applicants have incorporated into claim 1 the limitation of claim 2, necessitating cancellation of claim 2. Applicants have further amended claims 1, 3, 5-10, and 15 to more clearly set forth the claimed invention. Support for “[an unsaturated monomer] mainly composed of acrylic acid and/or salts thereof,” recited in amended claims 1 and 15, can be found in the Specification at, e.g., page 9, lines 4-5. No new matter has been introduced.

Rejection under 35 U.S.C. § 112

Claims 3-10 were rejected for indefiniteness on two grounds. See the Office Action, page 2, lines 1-9. Applicants will address each ground below.

I

Claim 3 recites “decreased ratio of the mass median particle size of the particulate water absorbing agent caused by impact (emphasis added).” The Examiner rejected claim 3 for indefiniteness, asserting that “‘impact’ has no proper antecedent basis. What is being impacted?” See page 2, lines 6-7.

Applicants respectfully traverse and would like to point out that the language “[by] impact” is a part of the term “decreased ratio of mass median particle size by impact,” which refers to a parameter for the claimed particulate water absorbing agent. This parameter is clearly defined in the Specification at page 56, lines 19-22. Specifically, this passage defines the term reciting a specific formula. In addition, the Specification describes what is subject to the impact. See, e.g., page 44, line 31 to page 45, line 2, “decreased ratio of mass median particle size by impact to be in specific range means breaking of large agglomerated particles by impact.” The Specification further describes the process of impacting. See, page 44, line 9 to page 45, line 3, and page 56, lines 3-17. In view of these descriptions, one skilled in the art can readily

understand that the meaning of the parameter “decreased ratio of mass median particle size ... by impact” as recited in claim 3.

The Examiner rejected claim 4 for indefiniteness on the same ground. See the Office Action, page 2, lines 6-7. Applicants would like to point out that, unlike claim 3, claim 4 does not recite “impact.” Thus, the Examiner’s basis for this rejection is unclear. Of note, claim 4 recites another parameter “increased ratio of the mass median particle size of the particulate water absorbing agent due to agglomeration.” Applicants would like to point out that this term is also clearly defined in the Specification. See, e.g., page 56, lines 24-27 and page 45, lines 3-7. Thus, claim 4 is definite.

II

The Examiner rejected claims 5-10, stating that “the term ‘further’ in these claims render[s] the claim confusing.” See page 2, line 9. Applicants have deleted the term, all occurrences, and submit that claims 5-10, as amended, are definite.

Rejection 35 U.S.C. §§ 102 and 103

Claims 1-21 were rejected under 35 U.S.C. §§102 and 103. Applicants have amended claim 1 and will address this claim first.

I

The Examiner rejected claim 1 for lack of novelty and for obviousness over US Patent to Johnson *et al.* (“Johnson”). See the Office Action, pages 2-3, carryover paragraph.

Claim 1, as amended, covers a particulate water absorbing agent having irregularly pulverized shape. The particulate water absorbing agent contains a surface crosslinked water-absorbing resin obtained by crosslinking polymerization of an unsaturated monomer mainly composed of acrylic acid and/or salts thereof. It also contains agglomerated particles. The particulate water absorbing agent satisfies (i) centrifuge retention capacity (CRC) of the particulate water absorbing agent in a physiological saline solution being not lower than 32 g/g; (ii) mass median particle size (D50) of the particulate water absorbing agent being in the range of 200 to 400 µm; and (iii) particles of the particulate water absorbing agent smaller than 600 µm and not

smaller than 150 μm being in the range of 95 to 100% by weight. The water content of the particulate water absorbing agent is 1 to 10% by weight.

According to the Examiner, Johnson describes a particulate water absorbing agent. More specifically, it is the Examiner's position that Johnson describes or suggests all of the above-mentioned limitations of claim 1. Applicants disagree.

First, the particulate water absorbing agent of amended claim 1 has a specific water content of "1 to 10% by weight." This specific water content is obtained through a particular process. See the Specification, e.g., page 10, lines 1-18. As described in the Specification, to obtain such a water content, crosslinked water-absorbing resin must be subject to "heating while maintaining water content of 1 to 10% by weight by adding water (emphasis added)."

Johnson, on the other hand, does not teach or suggest such a process. Instead, as noticed by the Office Action, it only teaches that a gel is subject to "drying in conventional manner," such as being "dried in an oven." See, column 4, lines 44-45, and column 6, lines 22-23. In other words, Johnson does not teach or suggest adding water to crosslinked water-absorbing resin while heating the resin so as to maintain a water content of "1 to 10% by weight" as required in the particulate water absorbing agent of claim 1. Thus, to the extent the crosslinked water-absorbing resin described in Johnson is dried "in conventional manner," Johnson does not render claim 1 unpatentable.

Second, the particulate water absorbing agent of claim 1 has a specific particle size range. That is, particles smaller than 600 μm and not smaller than 150 μm are in the range of 95 to 100% by weight. This specific particle size range is obtained through a specific size control process prior to surface crosslinking water-absorbing resin. See the Specification, e.g., page 10, lines 1-7 and page 21, line 16 to page 23, line 30.

In contrast, Johnson merely describes "[a] gel is ... comminuted and dried in an oven and ground to the selected particle size, typically such that as much as possible is between 300 and 600 μm ." Johnson does not describe or suggest any size control process, much less the process disclosed in the Specification that produces particles having the size range as recited in claim 1. It follows that Johnson does not teach or suggest the specific particle size range as recited in claim 1.

Third, the particulate water absorbing agent of claim 1 contains agglomerated particles. The agglomerated particles are prepared via an agglomeration step. See the Specification at, e.g., page 28, lines 10-16. Johnson does not mention any agglomeration step. Thus, it does not teach or suggest any agglomerated particles as required by claim 1.

Furthermore, the particulate water absorbing agent of claim 1 has additional features that are not described or suggested in Johnson. For example, it has “little electrostatic charging during manufacturing process of thin absorbing article, [or] little powder scattering or adherence caused by static electricity,” and, as a result, it allows “superior handling.” See the Specification, page 49, lines 6 -10. Johnson does not teach or suggest any of these features and therefore also does not render claim 1 unpatentable on this additional ground.

For the above reasons, Applicants submit that claim 1 is novel and non-obvious over Johnson.

II

The Examiner further rejected claim 1 for lack of novelty and for obviousness over US Application 2002/0120074 by Wada *et al.* (“Wada”). See the Office Action, page 4, lines 1-3.

As mentioned above, claim 1 covers a particulate water absorbing agent that has a water content level of “1 to 10% by weight.” It appears to be the Examiner’s position that Wada teaches a particulate water absorbing agent having the same water content level. Specifically, the Examiner referred to paragraph [0133] of Wada, which teaches “[t]he water content (on the wet basis) of the water-absorbent resin, ... is ... 1~10% (emphasis added).”

Applicants note that “1~10%” recited in claim 1 refers to the water content of water absorbing agent that contains a surface crosslinked water-absorbing resin. In contrast, “1~10%” described in paragraph [0133] of Wada refers to the water content of water-absorbent resin. As further described in paragraph [0134] of Wada, this water-absorbent resin has not been subject to surface-crosslinking, i.e., not crosslinked. See paragraph [0134] lines 1-3. To the extent that this Wada resin has not been crosslinked, it

is not a particulate water absorbing agent as recited in claim 1. Thus, contrary to the Examiner's position, Wada does not teach a particulate water absorbing agent having the water content level of "1 to 10% by weight" as recited in claim 1.

As discussed above in Part I immediately above, the "1 to 10% by weight" water content of the water absorbing agent of claim 1 is obtained through a specific process. The process includes crosslinking resin and "further heating [cross-linked resin and] ... addi[ng] ...water while maintaining water content (emphasis added)." See the Specification, e.g., page 10, lines 1-7. Wada does not teach or suggest adding water while heating cross-linked resin so as to maintain the water content. Indeed, like Johnson discussed above, Wada teaches drying resin in conventional manner, such as in an oven at a certain temperature without adding water. See, e.g., paragraphs [0332], [0398], and [0406]. For example, as described in paragraph [0406], water-absorbing agent of Wada was "heated at 180°C for 40 minutes." Thus, Applicants submit that Wada does not teach or suggest a particulate water absorbing agent that has a water content level of "1 to 10% by weight" as required by claim 1.

Furthermore, Applicants would like to point out that Wada does not teach or suggest another limitation of claim 1. As discussed above, the particulate water absorbing agent of claim 1 has a specific particle size range. That is, particles smaller than 600 µm and not smaller than 150 µm are in the range of 95 to 100% by weight. This specific particle size range is obtained through a specific size control process prior to surface crosslinking water-absorbing resin.

Like Johnson discussed above, Wada also does not teach or suggest using a specific size control process to obtain a specific size range. It merely describes using screens to sieve a water-absorbing agent to obtain particle populations having one of eight average diameters, i.e., 850 µm, 600 µm, 500 µm, 425 µm, 300 µm, 220 µm, 150 µm, or 105 µm. See, e.g., paragraphs [0336], [0345], and [0396]. It does not describe the numbers or weights of particles in each of the populations, let alone whether 95 to 100% by weight of the particles are smaller than 600 µm and not smaller than 150 µm as required by claim 1. Thus, Wada does not teach or suggest the particulate water absorbing agent of claim 1.

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In view of the above remarks, Applicants submit that independent claim 1 is patentable over both Johnson and Wada. Independent claim 12 covers an absorbing article for excrement, urine, or blood; the article includes the particulate water absorbing agent of claim 1 and hydrophilic fiber. Independent claim 15, on the other hand, covers a method of making the particulate water absorbing agent of claim 1. At least for the same reasons, these two claims are also patentable over Johnson and Wada. So are claims 2-11, 13, 14, and 16-21, all of which depend from claim 1, 12, or 15.

CONCLUSION

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply any other charges or credits to Deposit Account No. 50-4189, referencing Attorney Docket No. 60004-118US1.

Respectfully submitted,

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